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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/337,278 06/22/99 HIROOKA

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WASHINGTON DC 20006

EXAMINER

SMETANA, J

ART UNIT	PAPER NUMBER
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1746

DATE MAILED:

05/10/01

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/337,278

Applicant(s)

HIROOKA ET AL.

Examiner

Jiri F. Smetana

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 11-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Claims 11-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 4.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for bringing a sponge member into contact with an object and wiping the surface of the object, does not reasonably provide enablement for using a sponge member. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Claims 1-8 are also rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 provides for the use of a sponge member, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 1 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1 and 2, the term "cleaning water" is indefinite. It is unclear how something may be a "cleaning water" when there is carbon dioxide gas included in the "cleaning water". The claims are indefinite as to whether the object is cleaned with pure water, a mixture of protons and bicarbonate ions under equilibrium, or an aqueous mixture, such as water and carbonic acid.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Miyashita et al., U.S. Patent No. 6,167,583.

Miyashita discloses a cleaning method of an electronic component wherein an object to be cleaned is cleaned using a sponge member (column 3, lines 33-42) while supplying, to the object to be cleaned, cleaning water having the resistivity value of 10 MΩ or less (column 4, lines 4-7).

The elements in the claim are read in the reference.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 2, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita as applied to claim 1 above, in view of Kanno, U.S. Patent No. 5,873,380.

Miyashita does not disclose wherein the resistivity of cleaning water is adjusted by including carbon dioxide gas into the cleaning water. However, Kanno discloses wherein the resistivity of cleaning water is adjusted by including carbon dioxide gas into the cleaning water (column 7, lines 11-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the resistivity of the cleaning water by including carbon dioxide gas because Kanno teaches that damage of a wafer may be reduced by reducing the resistivity of pure water by mixing a carbon dioxide gas with the water, thereby reducing the static charge generated on the surface of the wafer (column 1, lines 38-41).

With respect to claims 5 and 6, it would have been obvious to clean ceramic wafers because both Miyashita and Kanno teach cleaning methods of generalized wafers or semiconductor devices, including ceramic or silicon.

11. Claims 3, 4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita and Kanno as applied to claims 1, 2, 5, and 6 above, in view of Simmons et al., U.S. Patent No. 5,693,148.

Neither Miyashita nor Kanno disclose wherein the sponge member is separated from the object to be cleaned during cleaning, and cleaning water supplied also to the separated sponge. However, Simmons discloses wherein the sponge member is separated from the object to be cleaned during cleaning, and cleaning water supplied also to the separated sponge (column 3, lines 10-19; column 4, lines 3-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to separate the sponge member from the object to be cleaned during cleaning, and supplying cleaning water to the separated sponge because Simmons teaches that cleaning contaminants from the brush/sponge causes contaminants to be repelled from the brush/sponge, thus reducing or even eliminating brush/sponge load-up (column 2, lines 11-18), thus extending the useful lifetime of the brush/sponge (column 3, lines 1-2).

12. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita, Kanno, and Simmons as applied to claims 1-8 above, in view of Chung et al., U.S. Patent No. 5,336,371.

Neither Miyashita, Kanno, nor Simmons disclose wherein the object to be cleaned is soaked in cleaning water having the resistivity value of 10 M Ω or less before cleaning. However, Chung discloses wherein the object to be cleaned is soaked in cleaning water before cleaning (column 2, lines 54-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to soak the object to be cleaned in cleaning water before cleaning because Chung teaches that after a photolithography process and stripping of the photoresist, the photoresist stripper must be removed from the wafer by a process such as rinsing before further wafer processing (column 1, lines 23-25; column 3, lines 50-52).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiri F. Smetana whose telephone number is (703)605-1173. The examiner can normally be reached on Monday-Friday (7:30am-4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (703)608-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-7718 for regular communications and (703)305-3599 for After Final communications.

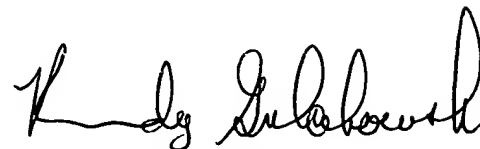
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Jiri F. Smetana
Patent Examiner
Art Unit 1746

jfs
May 7, 2001

A handwritten signature in black ink, appearing to read "Randy Gulakowski". The signature is fluid and cursive, with the first name "Randy" and last name "Gulakowski" clearly distinguishable.

RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700